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| EXAMINER |
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HUYNH, KIM T

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| ART UNIT | PAPER NUMBER |
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2112

DATE MAILED: 01/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,998

Applicant(s)

BEUKEMA ET AL.

Examiner

Kim T. Huynh

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-27, 30-50 and 53-69 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 28, 29, 51 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 8-18, 20-27, 31-41, 43-50, 54-64, 66-69 rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, JR. (Pub. No US20020026517) in view of Jason et al. (US Patent 6,636,520)

As per claims 1, 25 and 48 Watson discloses a method for processing foreign protocol requests across a system area network, the method comprising:

- a receiving a request from a device utilizing a protocol which is foreign to a protocol utilized by the system area network; [0004-0005]
- encapsulating the request in a data packet; and [0005], [0041], wherein the data requests encapsulated in a tunneling protocol, it is inherently encapsulate into data packet)
- sending the data packet to a requested node via the system area network fabric. [0005]

Watson discloses all the limitations as above except Watson does not explicitly disclose a protocol which is foreign to a protocol utilized by the system. However, Jason discloses a tunnel transports a packet using a foreign protocol across a network by encapsulating the packet into a

tunnel format. A tunnel encapsulates a packet and transports the encapsulated packet across the network using the foreign protocol.

(col.4,lines 41-58)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Jason's teaching into Watson's method so as to improve data packets security across network.

As per claims 2, 25, 48 Watson discloses wherein the request is a first request, the data packet is a first data packet, and the sending the data packet comprises sending the data packet on a first virtual lane, and further comprising:

- receiving a second request from a device utilizing a protocol which is foreign to the protocol utilized by the system area network; [0004]
- encapsulating the second request in a second data packet; and [0005], [0041]
- responsive to a determination that the first and second requests are to be kept in order, sending the second data packet to a requested node via the first virtual lane on the system area network fabric. [0041]

As per claims 3, 26, 49 Watson discloses wherein the request is a first request, the data packet is a first data packet, and sending the data packet comprises sending the data packet on a first virtual lane, and further comprising:

- receiving a second request from a device utilizing a protocol which is foreign to the protocol utilized by the system area network; [0004]

- encapsulating the second request in a second data packet; and [0005], [0041]
- responsive to a determination that the first and second requests should be able to bypass the other, sending the second data packet to a requested node via a second virtual lane on the system area network fabric. [0044]

As per claims 4, 27, 50, Watson discloses wherein the request is an interrupt received by a target channel adapter and further comprising: [0014]

- receiving the data packet, at a host channel adapter, and decoding the data packet to retrieve the interrupt; and [0041]
- interrupting the processor. [0041]

As per claims 8, 31, 54, Watson discloses the method further comprising:

- receiving, at the requested node, the data packet; [0004]
- decoding the data packet to obtain the foreign protocol request; and [0041]
- transmitting the foreign protocol request to an appropriate device. [0041]

As per claims 9, 32, 55, Watson discloses wherein the steps of receiving a request, encapsulating the request, and sending the data packet are performed by a host channel adapter. [0041]

As per claims 10, 33, 56, Watson discloses wherein the requested node is a target channel adapter. [0042]

As per claims 11, 34, 57, Watson discloses wherein the steps of receiving, at the requested node, the data packet, decoding the data packet, and transmitting the foreign protocol request are performed by a target channel adapter. [0041-0042]

As per claims 12, 35, 58, Watson discloses wherein the steps of receiving, at the requested node, the data packet, decoding the data packet, and transmitting the foreign protocol request are performed by a host channel adapter. [0041-0042]

As per claims 13, 36, 59, Watson discloses wherein the step of transmitting the foreign protocol request comprises converting the request to an appropriate host transaction. [0041-0042]

As per claims 14, 37, 60, Watson discloses wherein the steps of receiving a request, encapsulating the request, and sending the data packet are performed by a target channel adapter. [0041-0042]

As per claims 15, 38, 61, Watson discloses wherein the requested node is a host channel adapter. [0041-0042]

As per claims 16, 39, 62, Watson discloses wherein the step of encapsulating the foreign protocol request comprises placing the request into a data packet with appropriate headers and trailers in the data packet to ensure that the data packet is delivered across the system area network fabric to the requested node. [0041-0042]

As per claims 17, 40, 63, Watson discloses wherein the step of decoding the data packet comprises determining that the data packet contains a foreign

protocol request and removing the foreign protocol request from the data packet.

[0041]

As per claims 18, 41, 64, Watson discloses a method for processing foreign protocol requests across a system area network, the method comprising:

- receiving a data packet from a system area network fabric; [0004]
- determining that the data packet contains an encapsulated foreign protocol transmission; [0041]
- decoding the data packet to obtain the foreign protocol transmission; and [0041]
- sending the foreign protocol transmission to a requested device. [0005]

As per claims 20, 43, 66, Watson discloses wherein the requested device is an input/output adapter. [0026]

As per claims 21, 44, 67, Watson discloses wherein the steps of receiving, determining, decoding, and sending are performed by a target channel adapter. [0041-0042]

As per claims 22, 45, 68, Watson discloses wherein the steps of receiving, determining, decoding, and sending are performed by a host channel adapter. [0041-0042]

As per claims 23, 46, 69, Watson discloses wherein the step of sending comprises converting the foreign protocol request to an appropriate host transaction. [0041-0042]

3. Claims 7, 30, 53, 19, 42, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, JR. (Pub. No US 20020026517) in view of Jason et al. (US Patent 6,636,520), further in view of James et al. (US Patent 6,108,739)

Watson discloses all the limitations as above except the foreign protocol is a peripheral component interconnect bus protocol. However, James discloses PCI bus protocol. (col.21, lines 15-27)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate James's teaching into Watson's method to have PCI bus protocol so as to be a fast speed and so as to be compatible with latest advancements in the computer system.

CLAIMS OBJECTION

4. Claims 5-6, 28-29, 51-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art does not teach or suggest wherein the data packet is a first data packet and further comprising receiving at the host channel adapter, an end of interrupt instruction and encapsulating the end of interrupt instruction into a second data packet.

Response to Arguments

5. Applicant's arguments filed on 10/29/03 have been fully considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that Watson does not disclose the request where the request is in a foreign protocol, then encapsulating the request into a data

packet. Although Watson discloses the request data is encapsulated in a tunneling protocol [0005] and furthermore, convert the request into data packets. [0041] but Watson does not explicitly discloses request is in a foreign protocol. However, Jason discloses a tunnel transports a packet using a foreign protocol across a network by encapsulating the packet into a tunnel format. A tunnel encapsulates a packet and transports the encapsulated packet across the network using the foreign protocol. (col.4,lines 41-58). Thus, the prior art teaches the invention as claimed; they are moot in view of the new ground(s) of rejection.

Conclusion

6. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.*

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.



Kim Huynh

Jan. 9, 2004

Khanh Dang
Primary Examiner